

RECEIVED
CENTRAL FAX CENTER

Serial No. 10/708,340
Hiroyuki Akatsu et al.

SEP 17 2007

REMARKS

Claims 8, 10 and 21-23 are pending in the application with the present amendments. In the Office Action, all claims were rejected under 35 U.S.C. §§102(b) or 103(a) as being anticipated by or obvious over U.S. Patent No. 5,481,120 to Mochizuki et al. ("Mochizuki"), or, alternatively, as being obvious over *Mochizuki* in view of U.S. Patent No. 6,287,930 to Park ("Park") or over *Mochizuki* in view of U.S. Patent No. 5,101,256 to Harame et al ("Harame"). For the reasons set forth below, applicants respectfully submit that the presently pending claims are fully distinguished from the references cited in the final Office Action to reject the claims.

The undersigned wishes to thank the examiner for the courtesy in granting the telephonic interview that was conducted on September 14, 2007. During the interview, the amendment to claim 8 herein was discussed in relation to the various figures of *Mochizuki* used to reject claim 8 in the final office action. Agreement was reached that claim 8 as amended herein overcomes the rejection over *Mochizuki*.

All other claims depend from amended claim 8 and are allowable at least on that basis. No other passage of *Mochizuki* or other reference of record in the application teaches the invention recited in claim 8.

As discussed during the interview, support for the present amendments is found, *inter alia*, in FIGS. 10-12 and the accompanying description at paragraph [0055]. Paragraph [0055] describes an opening 250 formed by photolithographic patterning and etching, e.g., RIE, in a layered stack 222 (FIG. 11) (including an oxide layer 236 (first

FIS920030411US1

5

Serial No. 10/708,340
Hiroyuki Akatsu et al.

dielectric region), layers 281, 219 and 220) and an underlying silicon nitride layer 270 (second dielectric region). As described in paragraph [0055], the opening 250 extends through the first and second dielectric regions 236, 270 to the active area 202, and as shown in FIG. 12, the opening defines vertically-aligned edges of the dielectric regions. The vertically aligned edges of the first and second dielectric regions 236, 270 form a surface on which a vertically extending spacer 272 (FIG. 12) is formed.

As amended herein, claim 21 is further distinguished from the combinations of references including *Mochizuki* and *Park*, and *Mochizuki* and *Harame* cited in the final Office Action. Neither combination of references teaches a bipolar transistor including a collector having a single-crystal semiconductor region underlying a lower surface of a collector pedestal, with first and second active areas of the semiconductor region being separated in at least one lateral direction by a shallow trench isolation extending to a depth below the lower surface of the collector pedestal.

Support for the amendment to claim 21 is provided, *inter alia*, in the description of the embodiment with respect to FIGS. 10-17, wherein the first active area of the semiconductor region 202 (FIG. 12) is shown below the lower surface 207 of the collector pedestal 213 (FIG. 13). The collector pedestal is grown upwardly from the active area 202. (paragraph [0056]). A shallow trench isolation 226 (FIG. 11; paragraph [0054]) extends below the collector pedestal's lower surface

Claim 22 is amended herein in conformity with the present amendments to claim 8.

FIS920030411US1

6

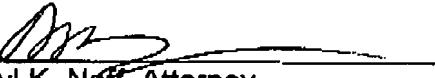
Serial No. 10/708,340
Hiroyuki Akatsu et al.

For the foregoing reasons, applicants respectfully submit that the present amendments and remarks place the application in condition for allowance. If, for any reason, the examiner believes that such action cannot be taken at this time, it is respectfully requested that he telephone the undersigned to discuss any concerns or issues that may remain.

This amendment is filed together with a Request for Continued Examination. It is believed that no other fee is due in connection with the filing of the present response. However, if any fee is due, please debit the Deposit Account No. 09-0458 of the Assignee International Business Machines Corporation.

Respectfully submitted,
Hiroyuki Akatsu et al.

By:


Daryl K. Neff, Attorney
Registration No. 38,253
Telephone: (973) 316-2612